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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/789,081	02/27/2004	Thomas Ellinger	MAIWA 3.9-002 CONT	8803
530	7590	08/21/2006	EXAMINER	
LERNER, DAVID, LITTENBERG, KRUMHOLZ & MENTLIK 600 SOUTH AVENUE WEST WESTFIELD, NJ 07090			CROW, ROBERT THOMAS	
			ART UNIT	PAPER NUMBER
			1634	

DATE MAILED: 08/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/789,081	Applicant(s) ELLINGER ET AL.	
	Examiner Robert T. Crow	Art Unit 1634	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-61 is/are pending in the application.
- 4a) Of the above claim(s) 26-51 and 59-61 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-25 and 52-58 is/are rejected.
- 7) ☒ Claim(s) 25 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>10789081</u> . | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

1. Applicant's election without traverse of Group I in the reply filed on 7 June 2006 is acknowledged.
2. Claims 26-51 and 59-61 have been withdrawn. Claims 1-25 and 52-58 are under prosecution.

Claim Objections

Claim 25 is objected to because of the following informalities: claim 25 recites "to spiking target molecule" in line 6 of the claim. This appears to be a typographical error. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 22-23 and 25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

1. Claims 22-23 are indefinite in claim 22, which recites the limitation "target molecules arranged on at least one array element" at the end of the claim. It is unclear if the target molecules are arranged on the at least one array element or if the probe molecule are arranged on at least one array element.
2. Claim 25 is indefinite in the recitation "in sufficient concentration" at the end of the claim. It is unclear what the concentration is sufficient for; i.e., structural limitation is indicated that explicitly depends on the concentration.

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Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Monforte et al (U.S. Patent No. 5,700,642, issued 23 December 1997).

Regarding claim 1, Monforte et al teach a probe array for qualitative and/or quantitative detection of target molecules in a sample by molecular interactions between probe molecules and target molecules on the probe array, comprising

an array surface and probe molecules immobilized on the array surface (e.g., oligonucleotide primers attached to a solid support; Abstract) at defined sites (e.g., the primers are in an array; column 24, lines 57-60)

wherein probe molecules have at least one label (e.g., the primers are labeled; column 9, lines 5-10) and at least one selectively cleavable bond between the site of immobilization on the array surface and the label (e.g., the label is in a fragment of the primer that is releasable from the array; column 9, lines 5-10).

Regarding claims 2 and 3, Monforte et al teach the array of claim 1, wherein the probes are oligonucleotides (e.g., the probes are oligonucleotide primers; Abstract).

Regarding claim 4, Monforte et al teach the array of claim 3, wherein the oligonucleotides have a length of from 10 to 100 bases (e.g., thirty nucleotides; column 8, line 66-column 9, line 3).

Regarding claim 5, Monforte et al teach the array of claim 1, wherein the selectively cleavable bond is located approximately in the center between the site of the immobilization of the probe molecule and the label (e.g., Figure 5A, wherein the first primer region is 5 nucleotides and the second regions in

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five nucleotides, with the cleavable linker in between [column 9, lines 10-40], and wherein the label is on the second region; column 9, lines 5-10). The broadly claimed limitation “approximately in the center” is interpreted to mean “in between” due to the lack of explicit structural limitations on the number of bases or nucleotides on either side of the cleavable bond.

Regarding claim 6, Monforte et al teach the array of claim 1, wherein the selectively cleavable bond cannot be selectively cleaved by enzymatic methods (column 7, line 51-column 8, line 3).

Regarding claim 7, Monforte et al teach the array of claim 1, wherein the selectively cleavable bond can be cleaved by chemical methods (column 7, lines 51-56).

Regarding claims 8 and 9, Monforte et al teach the array of claim 1, wherein the selectively cleavable bond can be selectively cleaved by the mercury ions (column 14, lines 20-22).

Regarding claim 10, Monforte et al teach the array of claim 1, wherein the selectively cleavable bond can be cleaved by photolysis (column 7, lines 51-56).

Regarding claims 11, 12, and 13, Monforte et al teach the array of claim 1, wherein the probe molecules comprise a nucleic acid of the formula A1-S-A2, wherein S is a nucleic acid that comprises the at least one selectively cleavable bond and A1 and A2 are any nucleic acids or nucleic acid analogs (e.g., the cleavable linker is a phosphorothioate within a nucleoside dimer, Figure 1I and column 11, lines 26-50).

Regarding claim 14, Monforte et al teach the array of claim 1, wherein the selectively cleavable bond is a phosphothioate (e.g., Figure 1H and column 11, lines 26-50).

Regarding claim 15, Monforte et al teach the array of claim 1, wherein the label is a detectable label and is fluorescent (column 9, lines 5-10).

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Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

2. Claims 1 and 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Monforte et al (U.S. Patent No. 5,700,642, issued 23 December 1997) in view of Fung et al (U.S. Patent No. 4,757,141, issued 12 July 1988).

Regarding claim 16, Monforte et al teach the probe array of claim 1 for qualitative and/or quantitative detection of target molecules in a sample by molecular interactions between probe molecules and target molecules on the probe array, comprising

an array surface and probe molecules immobilized on the array surface (e.g., oligonucleotide primers attached to a solid support; Abstract) at defined sites (e.g., the primers are in an array; column 24, lines 57-60)

wherein probe molecules have at least one label (e.g., the primers are labeled; column 9, lines 5-10) and at least one selectively cleavable bond between the site of immobilization on the array

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surface and the label (e.g., the label is in a fragment of the primer that is releasable from the array; column 9, lines 5-10).

While Monforte et al also teach the array of claim 15, wherein the label is a detectable label and is fluorescent (column 9, lines 5-10), Monforte et al are silent with respect to anchor groups.

However, Fung et al teach the attachment of labels to probe molecules (i.e., oligonucleotides) using anchor groups (i.e., linkers; Abstract) with the added advantage that linkers are useful in construction of gene probes (column2, lines 40-63).

It would therefore have been obvious to a person having ordinary skill in that art at the time the invention was made to modify the array comprising labels of Monforte et al with the anchor groups (i.e., linkers) as taught by Fung et al with a reasonable expectation of success. The ordinary artisan would have been motivated to make such a modification because the modification is useful in construction of gene probes as explicitly taught by Fung et al (column2, lines 40-63).

3. Claims 1, 17-18, and 22-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Monforte et al (U.S. Patent No. 5,700,642, issued 23 December 1997) in view of Lockhart et al (U.S Patent No. 6,040,138, issued 21 March 2000).

Regarding claim 17, Monforte et al teach the probe array of claim 1 for qualitative and/or quantitative detection of target molecules in a sample by molecular interactions between probe molecules and target molecules on the probe array, comprising

an array surface and probe molecules immobilized on the array surface (e.g., oligonucleotide primers attached to a solid support; Abstract) at defined sites (e.g., the primers are in an array; column 24, lines 57-60)

wherein probe molecules have at least one label (e.g., the primers are labeled; column 9, lines 5-10) and at least one selectively cleavable bond between the site of their immobilization on the array

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surface and the label (e.g., the label is in a fragment of the primer that is releasable from the array; column 9, lines 5-10).

Monforte et al are silent with respect to second probe molecules.

However, Lockhart et al teach immobilized nucleic acids (e.g., a high density array of oligonucleotides; Abstract) comprising a first probe molecule (e.g., an oligonucleotide that hybridizes to a target; Abstract) and second probe molecules that are labeled and have no selectively cleavable bond (e.g., mismatch control probes, wherein the mismatch control probe is an immobilized oligonucleotide [i.e., an ordinary, non-cleavable oligonucleotide]; column 3, lines 30-40) with the added advantage that the second probe molecule (i.e., the mismatch probe) allows measurement of the concentration of hybridized material (column 17, lines 23-27).

It would therefore have been obvious to a person having ordinary skill in that art at the time the invention was made to modify the array of Monforte et al with the second probes as taught by Lockhart et al with a reasonable expectation of success. The ordinary artisan would have been motivated to make such a modification because the modification would have resulted in allowing measurement of the concentration of hybridized material as explicitly taught by Lockhart et al (column 17, lines 23-27).

Regarding claim 18, the array of claim 17 is discussed above. Lockhart et al also teach the second probe molecules are oligonucleotides (e.g., the mismatch probes correspond to oligonucleotides probes; column 3, lines 30-40) having a defined sequence (e.g., the mismatch probes have deliberately selected sequences; column 7, lines 20-22).).

Regarding claim 22, the array of claim 1 is discussed above. While claim 22 is drawn to third probe molecules, the claim does not require second probe molecules. The instantly claimed third probe molecules are therefore interpreted as a set of probes in addition to the probe molecules of claim 1.

Monforte et al are silent with respect to third probe molecules which do not have affinity for targets.

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However, Lockhart et al teach immobilized nucleic acids (e.g., a high density array of oligonucleotides, Abstract) comprising first probe molecules (e.g., an oligonucleotide that hybridizes to a target; Abstract) and third probe molecules having no specific affinity to target molecules (e.g., expression level control probes, column 3, lines 50-55) arranged on at least one array element (e.g., the probes are on the array; column 3, lines 50-55) with the added advantage that the third probes control for the overall health and metabolic activity of a cell (column 16, lines 35-37).

It would therefore have been obvious to a person having ordinary skill in that art at the time the invention was made to modify the array of Monforte et al with the third probes as taught by Lockhart et al with a reasonable expectation of success. The ordinary artisan would have been motivated to make such a modification because the modification would have resulted in a control for the overall health and metabolic activity of a cell as explicitly taught by Lockhart et al (column 16, lines 35-37).

Regarding claim 23, the array of claim 22 is discussed above. Lockhart et al also teach the third probe molecules are having a defined sequence (e.g., the expression control probes are complementary to known genes; column 16, lines 55-61).

Regarding claim 24, the array of claim 1 is discussed above. While claim 24 is drawn to fourth probe molecules, the claim does not require second or third probe molecules. The instantly claimed fourth probe molecules are therefore interpreted as a set of probes in addition to the probe molecules of claim 1.

Monforte et al are silent with respect to fourth probe molecules which have affinity for spiking molecules.

However, Lockhart et al teach immobilized nucleic acids (e.g., a high density array of oligonucleotides; Abstract) comprising first probe molecules (e.g., an oligonucleotide that hybridizes to a target; Abstract) and fourth probe molecules having no specific affinity to target molecules (e.g., normalization controls; column 3, lines 50-55) arranged on at least one array element (e.g., on any position on the array; column 16, lines 36-31) and which have a specific affinity to spiking target

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molecules which are externally added to the sample (e.g., the normalization controls hybridized to reference oligonucleotides added to the sample; column 16, lines 1-4) with the added advantage that the third probe molecule provides a control for variation in signals between arrays (column 16, lines 1-9)

It would therefore have been obvious to a person having ordinary skill in that art at the time the invention was made to modify the array of Monforte et al with the fourth probes as taught by Lockhart et al with a reasonable expectation of success. The ordinary artisan would have been motivated to make such a modification because the modification would have resulted in providing a control for variation in signals between arrays as explicitly taught by Lockhart et al (column 16, lines 1-9).

Regarding claim 25, the array of claim 24 is discussed above. Lockhart et al also teach array elements distributed over the entire surface of the array on which said fourth probe molecules are located (e.g., the normalization probes are at multiple positions throughout the array; column 16, lines 26-31). Lockhart et al also teach the fourth probe molecules have a specific affinity to spiking target molecules which are externally added to the sample in sufficient concentration (e.g., the normalization controls hybridized to reference oligonucleotides added to the sample so that a signal is obtained; column 16, lines 1-4). Monforte et al teach wherein probe molecules have at least one label (e.g., the primers are labeled; column 9, lines 5-10) and at least one selectively cleavable bond between the site of immobilization on the array surface and the label (e.g., the label is in a fragment of the primer that is releasable from the array; column 9, lines 5-10).

4. Claims 1 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Monforte et al (U.S. Patent No. 5,700,642, issued 23 December 1997) in view of Mackay et al (U.S. Patent No. 4,874,492, issued 17 October 1989).

Regarding claim 19, Monforte et al teach the probe array of claim 1 for qualitative and/or quantitative detection of target molecules in a sample by molecular interactions between probe molecules and target molecules on the probe array, comprising

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an array surface and probe molecules immobilized on the array surface (e.g., oligonucleotide primers attached to a solid support; Abstract) at defined sites (e.g., the primers are in an array; column 24, lines 57-60)

wherein probe molecules have at least one label (e.g., the primers are labeled; column 9, lines 5-10) and at least one selectively cleavable bond between the site of thief immobilization on the array surface and the label (e.g., the label is in a fragment of the primer that is releasable from the array; column 9, lines 5-10).

Monforte et al are silent with respect to detectable units not labeled to probe molecules.

However, Mackay et al teach arrays of polynucleotides (e.g., 2-D gels; column 6, lines 56-67) having detectable units that are not attached to probe molecules (e.g., calibration chemicals; column 6, lines 56-67) having the added advantage that the detectable units (i.e., calibration chemicals) act as calibration standards (column 6, lines 56-67).

It would therefore have been obvious to a person having ordinary skill in that art at the time the invention was made to modify the array of Monforte et al with the detectable labels not attached to probes (i.e., calibration chemicals) as taught by Mackay et al et al with a reasonable expectation of success. The ordinary artisan would have been motivated to make such a modification because the modification would have resulted in standardized calibration as explicitly taught by Mackay et al (column 6, lines 56-67).

5. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Monforte et al (U.S. Patent No. 5,700,642, issued 23 December 1997) and Lockhart et al (U.S Patent No. 6,040,138, issued 21 March 2000) as applied to claim 17 above, and further in view of Kievits et al (U.S. Patent No. 5,770,360, issued 23 June 1998).

Regarding claim 20, the array of claim 17 is discussed above. Neither Monforte et al nor Lockhart et al teach different degrees in labeling.

However, Kievits et al teach immobilized oligonucleotides comprising a first probe and a second probe (column 5, lines 17-44), wherein the second probe molecules are arranged on different array elements (e.g., two different oligonucleotides [i.e., the first probe and a second probe] are arranged in two different spots; column 5, lines 45-50) which differ in their labeling degree (e.g., the probes are labeled differently [column 5, lines 32-37]; therefore, the first probe is labeled to a high degree with a first label but not a second label, and vice versa for the second probe) with the added advantage that the different degree of labeling allows indication of whether a test result is positive or negative (column 5, lines 17-44), thereby excluding false negatives (column 2, lines 1-9).

It would therefore have been obvious to a person having ordinary skill in that art at the time the invention was made to modify the array of Monforte et al and Lockhart et al with the different degree of labeling as taught by Kievits et al with a reasonable expectation of success. The ordinary artisan would have been motivated to make such a modification because the modification would have resulted in allowing indication of whether a test result is positive or negative, thereby excluding false negatives as explicitly taught by Kievits et al (column 2, lines 1-9 and column 5, lines 17-44).

6. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Monforte et al (U.S. Patent No. 5,700,642, issued 23 December 1997) and Mackay et al (U.S. Patent No. 4,874,492, issued 17 October 1989) as applied to claim 19 above, and further in view of Kievits et al (U.S. Patent No. 5,770,360, issued 23 June 1998).

Regarding claim 21, the array of claim 19 is discussed above. Neither Monforte et al nor Mackay et al teach different degrees in labeling.

However, Kievits et al teach immobilized oligonucleotides comprising a first probe and a second probe (column 5, lines 17-44), wherein the second probe molecules are arranged on different array elements (e.g., two different oligonucleotides [i.e., the first probe and a second probe] are arranged in two different spots; column 5, lines 45-50) which differ in their labeling degree (e.g., the probes are labeled

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differently [column 5, lines 32-37]; therefore, the first probe is labeled to a high degree with a first label but not a second label, and vice versa for the second probe) with the added advantage that the different degree of labeling allows indication of whether a test result is positive or negative (column 5, lines 17-44), thereby excluding false negatives (column 2, lines 1-9).

It would therefore have been obvious to a person having ordinary skill in that art at the time the invention was made to modify the array of Monforte et al and Mackay et al with the different degree of labeling as taught by Kievits et al with a reasonable expectation of success. The ordinary artisan would have been motivated to make such a modification because the modification would have resulted in allowing indication of whether a test result is positive or negative, thereby excluding false negatives as explicitly taught by Kievits et al (column 2, lines 1-9 and column 5, lines 17-44).

7. Claims 52-58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Monforte et al (U.S. Patent No. 5,700,642, issued 23 December 1997) in view of the Stratagene Catalog (1998).

Regarding claim 52, Monforte et al teach the probe array of claim 1 for qualitative and/or quantitative detection of target molecules in a sample by molecular interactions between probe molecules and target molecules on the probe array, comprising

an array surface and probe molecules immobilized on the array surface (e.g., oligonucleotide primers attached to a solid support; Abstract) at defined sites (e.g., the primers are in an array; column 24, lines 57-60)

wherein probe molecules have at least one label (e.g., the primers are labeled; column 9, lines 5-10) and at least one selectively cleavable bond between the site of their immobilization on the array surface and the label (e.g., the label is in a fragment of the primer that is releasable from the array; column 9, lines 5-10).

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Monforte et al also teach reagents for the selective cleavage of the selectively cleavable bond in the probe molecules (e.g., mercuric chloride; column 14, lines 20-22); hybridization buffer (e.g., annealing buffer; column 15, lines 54-56); and washing buffer (column 16, lines 15-19). Monforte do not teach kits.

However, the Stratagene catalog (1988) teaches that kits provide the two services of assembling and premixing a variety of different reagents specifically for a defined set of experiments as well as providing quality control (page 39, column 1).

It would therefore have been obvious to a person having ordinary skill in that art at the time the invention was made to modify the array and reagents of Monforte et al into a kit format as discussed in the Stratagene catalog with a reasonable expectation of success. The ordinary artisan would have been motivated to make such a modification because the modification would have resulted in assembling and premixing a variety of different reagents specifically for a defined set of experiments as well as providing quality control as explicitly taught by the Stratagene catalog (page 39, column 1).

Regarding claims 53-54, the kit of claim 52 is discussed above. Monforte also teach heavy metal ions (e.g., mercuric chloride; column 14, lines 20-22).

Regarding claim 55, the kit of claim 52 is discussed above. Monforte et al also teach a reaction chamber (e.g., a Petri dish; column 32, line 28).

Regarding claim 56, the kit of claim 52 is discussed above. Monforte et al also teach a detection device (e.g., a dual microchannel plate detector; column 34, line 1).

Regarding claim 57, the kit of claim 52 is discussed above. Monforte et al also teach a temperature control unit (e.g., a thermocycler; column 22, line 39).

Regarding claim 58, the kit of claim 52 is discussed above. Monforte et al also teach the probe array is in the form of a highly integrated autonomous unit (e.g., the array is synthesized on a support [e.g., a matrix; column 24, lines 57-60] and the solid support is a slide [column 31, lines 8-9]; therefore, the array is integrated because the probes are attached to the slide, and autonomous because the slide exists independently).

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Conclusion

1. No claim is allowed.
2. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert T. Crow whose telephone number is (571) 272-1113. The examiner can normally be reached on Monday through Friday from 8:00 am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ram Shukla can be reached on (571) 272-0735. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Robert T. Crow
Examiner
Art Unit 1634



8/16/06
JULIET C. SWITZER
PRIMARY EXAMINER